

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

December 15, 2015

Mr. Dana Bayuk
Oregon Department of Environmental Quality
Northwest Region, Portland Office
Portland Harbor Section
700 NE Multnomah Street, #600
Portland, Oregon 97232

HAI Project No. 2708
DEQ ECSI File No. 84

**SUBJECT: Progress Report, NW Natural Site, 7900 NW St. Helens Avenue and
7200 NW Front Avenue, Portland, Oregon**

Dear Mr. Bayuk:

Hahn and Associates, Inc. (HAI) has prepared this monthly Progress Report to summarize Remedial Investigation/Feasibility Study (RI/FS) and source control-related work activities conducted by NW Natural relating to historic manufactured gas plant (MGP) activities at the NW Natural Site during the month of November 2015. NW Natural is completing upland investigation and cleanup activities at the NW Natural Site under the Voluntary Agreement No. ECVC-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

1.0 Communications and Document Submittals

In correspondence dated November 2, 2015 (Dana Bayuk to Halah Voges), DEQ provided feedback on the table of indicator compounds proposed by NW Natural for use in the Gasco Uplands Feasibility Study (FS).

In correspondence dated November 3, 2015 (Pradeep Mugunthan to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided DEQ-requested documentation regarding NW Natural's groundwater flow model.

In correspondence dated November 4, 2015 (Dana Bayuk to Halah Voges), DEQ provided feedback on the revised version of the human health conceptual site model to be used within the Gasco Uplands FS.

In correspondence dated November 6, 2015 (John Renda to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided notice to DEQ regarding the anticipated schedule for TarGOST and installation of extraction well PW-1Ub.

In correspondence dated November 11, 2015 (Jen Woronets to Mike Greenberg), Anchor QEA, on behalf of NW Natural, transmitted the HAI document entitled *Truck Fuel Rack Area Pipeline Leak Response, Pacific Terminal Services, Inc. Leasehold, NW Natural-Gasco Property*, dated November 11, 2015.

In correspondence dated November 12, 2015 (Dana Bayuk to John Renda), DEQ acknowledged receipt of NW Natural's November 6, 2015 notice of pending field activities.

In correspondence dated November 12, 2015 (Mike Greenberg to Jen Woronets), DEQ provided notice of receipt of the November 11, 2015 *Pacific Terminal Services Pipeline Leak Response Report* and that the agency will close Spill File #2015-0684.

In correspondence dated November 13, 2015 (Dana Bayuk to Halah Voges), DEQ provided feedback on notes from the October 19, 2015 Gasco Uplands FS check-in meeting.

In correspondence dated November 13, 2015 (Patty Dost to Dana Bayuk), NW Natural requested DEQ assistance in obtaining access to the Siltronic property for the installation of replacement extraction well PW-1Ub.

In correspondence dated November 15, 2015 (Jen Woronets to Dana Bayuk), Anchor QEA, on behalf of NW Natural, transmitted the HAI document entitled *Evaluation of Location of Former Industrial Use Water Supply Well Mult 802, NW Natural Gasco Property, Portland, Oregon*, dated November 11, 2015.

A check-in meeting with representatives of NW Natural and DEQ was conducted on November 16, 2015 to discuss ongoing development of the Gasco Uplands FS.

In correspondence dated November 17, 2015 (John Renda to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided a summary of a phone conversation regarding the operational status of extraction well PW-1U and planned installation of extraction well PW-1Ub.

In correspondence dated November 20, 2015 (Keith Johnson to Bob Wyatt and Myron Burr) DEQ provided a description of the agency's decision regarding the path forward for expediting remedial action planning for the northern portion of the Siltronic property.

In correspondence dated November 20, 2015 (Dana Bayuk to John Renda), DEQ directed NW Natural and Siltronic to submit a plan to complete extraction well PW-1Ub by December 11, 2015.

In correspondence dated November 24, 2015 (Jen Woronets to Dana Bayuk), Anchor QEA, on behalf of NW Natural, transmitted a summary of the November 16, 2015 Gasco Uplands FS check-in meeting.

In correspondence dated November 25, 2015 (Dana Bayuk to Pradeep Mugunthan), DEQ provided comments from review of groundwater model materials as provided in November 3, 2015 correspondence.

In correspondence dated November 25, 2015 (Pradeep Mugunthan to Dana Bayuk) Anchor QEA, on behalf of NW Natural, transmitted the proposed agenda for the planned December 2, 2015 Groundwater Model Workshop to include NW Natural, Siltronic, DEQ, and EPA representatives. Subsequent correspondence related to the planning of the workshop occurred between DEQ and Anchor QEA on November 30, 2015.

2.0 Field Work

Completion of TarGOST boring installations as part of the HC&C Performance Monitoring Program was conducted during the week of November 9, 2015.

HAI field activities related to monitoring and maintenance of the dense non-aqueous phase liquid (DNAPL) extraction system at surficial fill well locations MW-6-32 and MW-13-30 occurred during November 2015. The system recovered approximately 50 gallons of fluids in November, primarily DNAPL.

Tasks related to optimization and maintenance of the HC&C system and the groundwater treatment system were conducted in November 2015, with the system operating under Phase 2 testing parameters since July 21, 2015.

Baseline DNAPL removal as needed to maintain at levels below the top of the well sumps was conducted by Anchor QEA during November 2015 in the following wells near the river shoreline.

- MW-26U
- MW-27U
- MW-38U
- MW-PW-2L
- PW-2L

On March 31, 2014 NW Natural discontinued routine discharges of treated groundwater to the sanitary sewer (Industrial Wastewater Discharge Permit 500.022). During November 2015 all water was directed to NW Natural's on-site wastewater treatment plant and discharged to the Willamette River consistent with National Pollutant Discharge Elimination System (NPDES) Permit No. 103061 (expires August 31, 2018). Results from NW Natural's NPDES effluent sampling are provided to DEQ in Discharge Monitoring Reports that are submitted on a monthly basis in accordance with the permit. A total of 11,243,958 gallons of treated water were discharged under the NPDES permit during November.

3.0 Anticipated Activities December 2015 and January 2016

NW Natural and DEQ technical working group communications and meetings are anticipated to occur as needed during December 2015 and January 2016 to discuss ongoing project tasks.

The draft Feasibility Study Work Plan for the Gasco Uplands will be under development during the indicated time-frame, with monthly DEQ check-in meetings scheduled over the duration of the plan development.

Installation of replacement groundwater extraction well PW-1Ub is anticipated to occur in early 2016, after receiving access approval in December 2015.

The *HC&C Model Calibration and Validation Report* will be prepared for submittal to DEQ after agreements with the agency are reached related to model calibration. NW Natural has scheduled a Workshop with DEQ and EPA (conducted on December 2, 2015) to address outstanding questions on model calibration.

Long-term HC&C system operation, initiated during July 2015 and initially approved for nine months, will continue.

The Fourth Quarter 2015 groundwater monitoring event (water levels, DNAPL measurements, and new well sampling) will occur during December 2015.

Preparation and transmittal of monthly HC&C system Figure sets will occur during the indicated timeframe as part of the routine HC&C system reporting requested by DEQ.

A Contaminated Materials Management Plan is being prepared for submittal in early 2016.

The *Groundwater Treatment System Operations and Maintenance Manual*, prepared by Severson Environmental Services, Inc., dated May 2015 is being updated based on feedback provided by DEQ and DOJ and will be resubmitted in early 2016.

Initiation of supplemental Doane Creek investigation activities will occur in early 2016 after final execution of the pending access agreement with Burlington Northern & Santa Fe Railway Company.

NW Natural is in the process of creating a new tabulation to represent NW Natural's overall groundwater monitoring program at the Gasco and Siltronic properties. A completed draft tabulation will be provided for DEQ review in December 2015.

The following reports and work plans for the Site have been submitted to DEQ through the date of this progress report. Unless otherwise noted, NW Natural has not received DEQ comments on these documents.

- *Fill WBZ Trench Design Evaluation Report, Gasco/Siltronic*, prepared by Anchor QEA, dated April 8, 2015.
- *Hydraulic Control and Containment (HC&C) System Operation and Maintenance (O&M) Manual*, prepared by Anchor QEA, dated May 1, 2015.
- *HC&C Capture Performance and Monitoring Plan (PMP)*, prepared by Anchor QEA, dated May 1, 2015.
- *Evaluation of Location of Former Industrial Use Water Supply Well Mult 802, NW Natural Gasco Property, Portland, Oregon*, prepared by Hahn and Associates, Inc., dated November 11, 2015.

Should you have any questions, please contact the undersigned.

Sincerely,



Rob Ede, R.G.
Principal

robe@hahnenenv.com

Cc: Mr. Bob Wyatt, NW Natural (electronic only)
Ms. Patty Dost, Pearl Legal Group PC (electronic only)
Ms. Rachel Melissa, Pearl Legal Group PC (electronic only)
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Mr. Carl Stivers, Anchor QEA, L.L.C. (electronic only)
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Mr. John Renda, Anchor QEA, L.L.C. (electronic only)
Mr. Henning Larsen, DEQ NW Region (electronic only)
Mr. Keith Johnson, DEQ NW Region (electronic only)
Mr. Dan Hafley, DEQ NW Region (electronic only)
Mr. Myron Burr, Siltronic Corporation (electronic only)
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